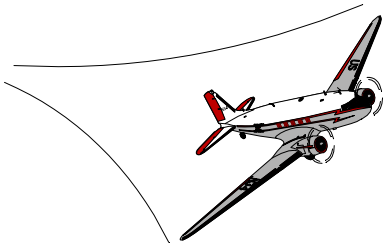
SPECIAL AIRWORTHINESS INFORMATION BULLETIN

Aircraft Certification Service
Washington, DC



U.S. Department of Transportation

Federal Aviation Administration

No. SW-03-44
June 20, 2003

We post SAIBs on the internet at www.airweb.faa.gov

This is information only. Recommendations are not mandatory.

[This copy corrects the "For Further Information Contact"]

Potential Unsafe Condition
Agusta A109 Helicopters
Tail Rotor Trunnion P/N 109-0131-05

Purpose
The purpose of this Special Airworthiness Information Bulletin is to inform operators of the Agusta A109 series helicopters of a potential unsafe condition which may exist on their helicopters. The FAA and ENAC, the airworthiness authority in Italy, are still investigating this potential unsafe condition.

Introduction
On June 7, 2003, an Agusta A109K2 helicopter was involved in a fatal mishap. Investigation, although not complete, has revealed a potential unsafe condition with the Tail Rotor (T/R) trunnion, P/N 109-0131-05-( ). Field investigation of the failed part indicated a fatigue crack that may have originated from a tool mark.

Examination
The trunnion failed through the splined portion in approximately two equal halves (See photo 1). Initial examination reveals indications of fatigue (Photo 2). A mark on the outboard surface of the trunion was observed and appears to be a possible fatigue initiation point (Photo 3).

Although the exact cause of the mark is unknown we suspect it is a tool mark that was made during reassembly of the T/R hub after an inspection. During the installation and removal process of the T/R hub a washer (Fig 1 item 12) is bent to provide a locking feature to the spacer (Fig 1 item 13) and the retaining nut (Fig 1 item 10). The maintenance manual does not specify the method or tool for bending the washer, nor does it specify limits for scratches, dents, or other damage. However, the Component Maintenance Manual (Fig 2.) does specify a damage limit of 0.1 mm (0.004 inches) in Area 1.

Recommendation
During disassembly and reassembly of the T/R hub, use extreme caution to not scratch, dent or otherwise damage the T/R trunnion. A one-time inspection should be accomplished to ensure the trunnion has not been previously damaged.

For Further Information Contact:
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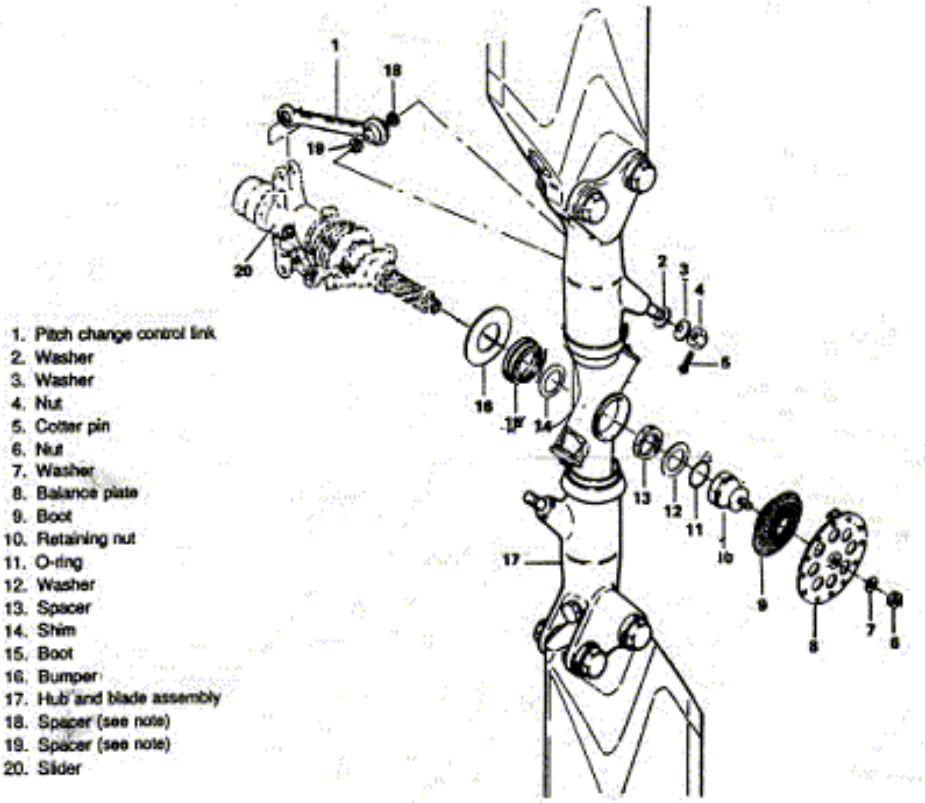

Figure 1.

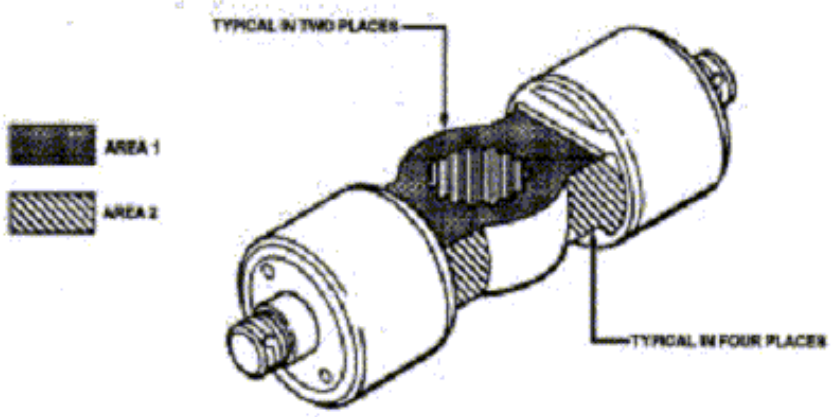

Figure 2.

Photo 1 Separated Trunnion

P/N 109-0131-05-115

Photo 2
Fracture Surfaces

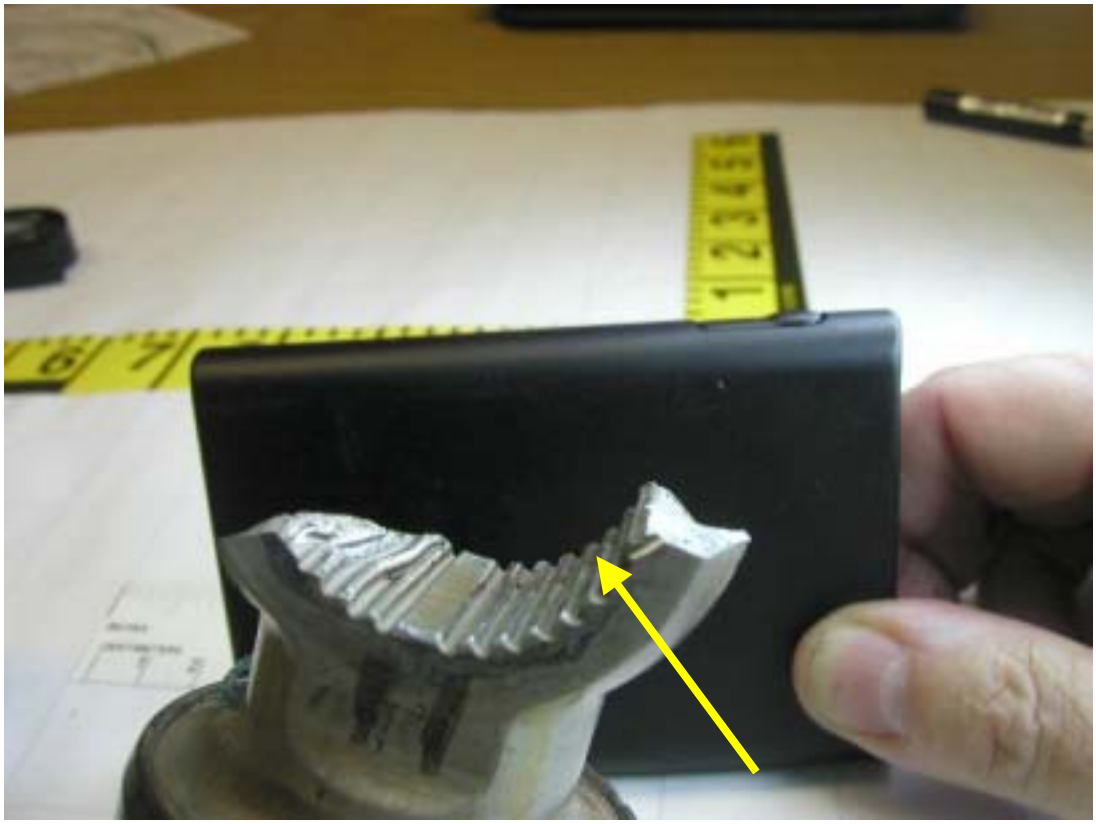

Photo 3
Unknown Mark on Surface

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**Federal Aviation
Administration**

Aircraft Certification Service
Delegation & Airworthiness Programs Branch
PO Box 26460, AIR-140
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Special Airworthiness Information Bulletin

FLIGHT INFORMATION
CRITICAL TO FLYING SAFETY

**URGENT
FORWARD TO AIRCRAFT OPERATOR**

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We mail Airworthiness Information such as Airworthiness Directives, Special Airworthiness Information Bulletins, and Unapproved Parts Notifications for a particular make and model of aircraft using authorized mail lists from several FAA databases. **IF YOU NEED TO CHANGE YOUR ADDRESS** and are an **AIRCRAFT OWNER**, you must **SIGN** and **MAIL THIS FORM** to the **FAA AIRCRAFT REGISTRY.** They will mail you a **REVISED CERTIFICATE** of Aircraft Registration at no charge. For **OTHER CHANGES** of address, please contact your local **Flight Standards Field Office (FSDO).**
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- Corporation: A corporate officer or managing official must sign.
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